# EXHIBIT 7

#### AMENDED CLAIMS 14.12.201012.4.2011

1. A method, characterized in that the method comprises:

observing when a new uplink packet transmission (3A, 3E) for one packet (P2) and an uplink packet re-transmission (3B) for another packet (P1<sub>2</sub>) from one user equipment (10) are to-would occur within one sub-frame corresponding to one hybrid automatic repeat request process; and

in response, a hybrid automatic repeat request function dynamically allocating resources for transmitting the new uplink packet transmission (3A,-3E) in a different sub-frame corresponding to a different hybrid automatic repeat request process that does not collide with the uplink packet re-transmission (3B).

- 2. The method according to claims 1, wherein the resources for the retransmissions of the new uplink packet transmission (3E), whose transmission has been delayed, are persistently allocated for transmitting the new uplink packet transmission (3A, 3E) in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 3. The method according to any of the preceding claims, further comprising: freely allocating the delayed new uplink packet transmission (3E) to occur in any later hybrid automatic repeat request process, wherein constrains imposed by a synchronous hybrid automatic repeat request with regards to the retransmissions taking place within the same hybrid automatic repeat request process as its initial/new/first transmission need not be followed.
- 4. A computer readable medium encoded with a computer program executable by a processor, characterized to perform actions comprising: observing when a new uplink packet transmission (3A, 3E) for one packet

Formatted: Subscript

Formatted: Patent Para, Indent: First line: 1,27 cm, Line spacing: single

1

(P2) and an uplink packet re-transmission (3B) for another packet (P1<sub>2</sub>) from one user equipment (10) are towould occur within one sub-frame corresponding to one hybrid automatic repeat request process; and

in response, a hybrid automatic repeat request function dynamically allocating resources for transmitting the new uplink packet transmission (3A, 3E) in a different sub-frame corresponding to a different hybrid automatic repeat request process that does not collide with the uplink packet re-transmission (3B).

5. An apparatus, characterized in that the apparatus comprises:

means for observing when a new uplink packet transmission (3A, 3E) for one packet (P2) and an uplink packet re-transmission (3B) for another packet (P1<sub>2</sub>) from one user equipment (10) are towould occur within one sub-frame corresponding to one hybrid automatic repeat request process; and

in response, means for dynamically allocating resources for transmitting the new uplink packet transmission (3A, 3E) in a different <u>sub-frame corresponding to</u> a <u>different</u> hybrid automatic repeat request process that does not collide with the uplink packet re-transmission (3B).

- 6. The apparatus according to claim 5 wherein the means for observing and the means for dynamically scheduling comprises a hybrid automatic repeat request functional unit (12E).
- 7. The apparatus according to claims 5 to 6, wherein resources for the retransmissions of the new uplink packet transmission (3E), whose transmission has been delayed, are persistently allocated for transmitting the new uplink packet transmission (3A, 3E) in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 8. The apparatus according to any of claims 5 to 7, wherein the delayed new uplink packet transmission (3E) is freely-allocated to occur in any later hybrid automatic repeat request process, wherein constrains imposed by a synchronous hybrid automatic repeat request with regards to the re-transmissions taking place within the same hybrid automatic repeat request process as its initial/new/first

transmission need not be followed.

9. A method, characterized in that the method comprises:

transmitting a packet re-transmission (Pl<sub>d</sub>, Pl<sub>2</sub>, 3B) in a hybrid automatic repeat request process using a semi-persistently scheduled uplink resource; and

responsive to receiving a dynamic allocation (3D) of a different <u>sub-frame</u> <u>corresponding to a different</u> hybrid automatic repeat request process, transmitting a new packet (P2<sub>0</sub>, P2<sub>1</sub>, 3A, 3E) using the dynamically allocated different <u>sub-frame</u> <u>corresponding to the different</u> hybrid automatic repeat request process.

- 10. The method according to claim 9, further comprising persistently allocating a-resources for the re-transmissions of the new uplink packet transmission (3E), whose transmission has been delayed, for transmitting the new packet transmission (3A, 3E) in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 11. A computer readable medium encoded with a computer program executable by a processor, characterized to perform actions comprising:

transmitting a packet re-transmission (P1<sub>1</sub>, P1<sub>2</sub>, 3B) in a hybrid automatic repeat request process using a semi-persistently scheduled uplink resource; and

responsive to receiving a dynamic allocation (3D) of a different <u>sub-frame</u> <u>corresponding to a different</u> hybrid automatic repeat request process, transmitting a new packet (P2<sub>0</sub>, P2<sub>1</sub>, 3A, 3E) using the dynamically allocated different <u>sub-frame</u> <u>corresponding to the different</u> hybrid automatic repeat request process.

12. An apparatus, characterized in that the apparatus comprises:

means for transmitting a packet re-transmission (P11, P12, 3B) in a hybrid

Formatted: Indent: First line: 1,27

Formatted: Font:

Formatted: Subscript

Formatted: Subscript

Formatted: Indent: First line: 1,27

cm

Formatted: Indent: First line: 1,27

cm

Formatted: Subscript

Formatted: Subscript

Formatted: Indent: First line: 1,27 cm

Formatted: Indent: First line: 1,27

automatic repeat request process using a semi-persistently scheduled uplink resource; and

responsive to receiving a dynamic allocation (3D) of a different <u>sub-frame</u> <u>corresponding to a different</u> hybrid automatic repeat request process, means for transmitting a new packet (<u>P2<sub>0</sub>, P2<sub>1</sub>, 3A, 3E</u>) using the dynamically allocated different <u>sub-frame corresponding to the different</u> hybrid automatic repeat request process.

Formatted: Indent: First line: 1,27

- 13. The apparatus according to claim 12, wherein the resources are persistently allocated for the re-transmissions of the new uplink packet transmission (3E), whose transmission has been delayed, for transmitting the new packet transmission (3A, 3E) in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 14. The apparatus according to claim 12, wherein the means for transmitting comprises a transmitter operating under the control of a hybrid automatic repeat request functional unit (10E).
- 15. The apparatus according to claims 12 to 14, wherein the apparatus is embodied in a user equipment (10).

### AMENDED CLAIMS

5

10

15

30

1. A method, characterized in that the method comprises:

observing when a new uplink packet transmission (3A, 3E) for one packet (P2) and an uplink packet re-transmission (3B) for another packet (P1<sub>2</sub>) from one user equipment (10) would occur within one sub-frame corresponding to one hybrid automatic repeat request process; and

in response, a hybrid automatic repeat request function dynamically allocating resources for transmitting the new uplink packet transmission (3A,3E) in a different sub-frame corresponding to a different hybrid automatic repeat request process that does not collide with the uplink packet re-transmission (3B).

- 2. The method according to claim 1, wherein the resources for the retransmissions of the new uplink packet transmission (3E), whose transmission has been delayed, are persistently allocated in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 3. The method according to any of the preceding claims, further comprising: allocating the new uplink packet transmission (3E) to occur in any later hybrid automatic repeat request process, wherein constrains imposed by a synchronous hybrid automatic repeat request with regards to the re-transmissions taking place within the same hybrid automatic repeat request process as its initial/new/first transmission need not be followed.
- 4. A computer readable medium encoded with a computer program executable by a processor, characterized to perform actions comprising:

observing when a new uplink packet transmission (3A, 3E) for one packet (P2) and an uplink packet re-transmission (3B) for another packet (P1<sub>2</sub>) from one user equipment (10) would occur within one sub-frame corresponding to one hybrid automatic repeat request process; and

in response, a hybrid automatic repeat request function dynamically allocating resources for transmitting the new uplink packet transmission (3A, 3E) in a different sub-frame corresponding to a different hybrid automatic repeat

request process that does not collide with the uplink packet re-transmission (3B).

5. An apparatus, characterized in that the apparatus comprises:

5

10

15

20

25

means for observing when a new uplink packet transmission (3A, 3E) for one packet (P2) and an uplink packet re-transmission (3B) for another packet (P1<sub>2</sub>) from one user equipment (10) would occur within one sub-frame corresponding to one hybrid automatic repeat request process; and

in response, means for dynamically allocating resources for transmitting the new uplink packet transmission (3A, 3E) in a different sub-frame corresponding to a different hybrid automatic repeat request process that does not collide with the uplink packet re-transmission (3B).

- 6. The apparatus according to claim 5 wherein the means for observing and the means for dynamically scheduling comprises a hybrid automatic repeat request functional unit (12E).
- 7. The apparatus according to claims 5 to 6, wherein resources for the retransmissions of the new uplink packet transmission (3E), whose transmission has been delayed, are persistently allocated in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 8. The apparatus according to any of claims 5 to 7, wherein the new uplink packet transmission (3E) is allocated to occur in any later hybrid automatic repeat request process, wherein constrains imposed by a synchronous hybrid automatic repeat request with regards to the re-transmissions taking place within the same hybrid automatic repeat request process as its initial/new/first transmission need not be followed.
- 9. A method, characterized in that the method comprises:
- transmitting a packet re-transmission (P1<sub>1</sub>, P1<sub>2</sub>, 3B) in a hybrid automatic repeat request process using a semi-persistently scheduled uplink resource; and

responsive to receiving a dynamic allocation (3D) of a different sub-frame

corresponding to a different hybrid automatic repeat request process, transmitting a new packet (P2<sub>0</sub>, 3E) using the dynamically allocated different sub-frame corresponding to the different hybrid automatic repeat request process.

- The method according to claim 9, further comprising persistently allocating resources for the re-transmissions of the new uplink packet transmission (3E), whose transmission has been delayed, in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 10 11. A computer readable medium encoded with a computer program executable by a processor, characterized to perform actions comprising:

transmitting a packet re-transmission (P1<sub>1</sub>, P1<sub>2</sub>, 3B) in a hybrid automatic repeat request process using a semi-persistently scheduled uplink resource; and

responsive to receiving a dynamic allocation (3D) of a different sub-frame corresponding to a different hybrid automatic repeat request process, transmitting a new packet (P2<sub>0</sub>, 3E) using the dynamically allocated different sub-frame corresponding to the different hybrid automatic repeat request process.

12. An apparatus, characterized in that the apparatus comprises:

15

25

30

20 means for transmitting a packet re-transmission (P1<sub>1</sub>, P1<sub>2</sub>, 3B) in a hybrid automatic repeat request process using a semi-persistently scheduled uplink resource; and

responsive to receiving a dynamic allocation (3D) of a different sub-frame corresponding to a different hybrid automatic repeat request process, means for transmitting a new packet (P2<sub>0</sub>, 3E) using the dynamically allocated different sub-frame corresponding to the different hybrid automatic repeat request process.

- 13. The apparatus according to claim 12, wherein the resources are persistently allocated for the re-transmissions of the new uplink packet transmission (3E), whose transmission has been delayed, in the different sub-frame corresponding to the different hybrid automatic repeat request process.
- 14. The apparatus according to claim 12, wherein the means for transmitting

comprises a transmitter operating under the control of a hybrid automatic repeat request functional unit (10E).

15. The apparatus according to claims 12 to 14, wherein the apparatus is embodied in a user equipment (10).



## Letter accompanying subsequently filed items

Sender:

NOKIA CORPORATION Keilalahdentie 4 02150 Espoo Finland

Phone: +358 7180 08000 Fax: +358 7180 36020

E-mail: ipr.inhouse@nokia.com

80298 Munich Germany

Tel. +49(0)89 2399-0 | Fax -4465

P.O. Box 5818 NL-2280 HV Rijswijk

Netherlands

Tel. +31(0)70 340-2040 | Fax -3016

10958 Berlin Germany

Tel. +49(0)30 25901-0 | Fax -840

The document(s) listed below is (are) subsequently filed documents pertaining to the following application:

| Application number                        | 08835383.4 |
|---|------------|
|   |            |
| Applicant's or representative's reference | NC61924EP  |

|   | Description of document     | Original file name                   | Assigned file name |
|---|-----------------------------|--------------------------------------|--------------------|
| 1 | Reply to examination report | NC61926EP-Response to OA of          | EXRE3-1.pdf        |
|   |                             | 19.1.2011.pdf                        |                    |
| 2 | Amended claims              | NC61924EP-Amended claims in          | CLMSPAMD-1.pdf     |
|   |                             | response to OA of 19.1.2011 - cl.pdf |                    |
| 3 | Amended claims              | NC61924EP-Amended claims in          | CLMSPAMD-2.pdf     |
|   |                             | response to OA of 19.1.2011 - co.pdf |                    |

#### Signatures

Place: Helsinki

Date: 02 May 2011

Signed by: /Jussi Jaatinen/

Association: NOKIA CORPORATION

Capacity: (Representative)

1 (6) NOKIA

Intellectual Property Rights Ting Wang/Kolst/MS

2 May 2011

European Patent Office Erhardtstrasse 27 D-80298 Munich Germany

Dear Sirs.

European Patent Application No. 08835383.4-2415 **Nokia Corporation** Our ref: NC61924

We hereby request that this application be registered with association No. 383 Nokia Corporation as the representative.

In response to the Communication pursuant to Article 94(3) EPC issued for the above European patent application on 19 January 2011, we enclose amended claims 1-15, which replace the original claims 1-15.

Further, we present the following.

## Claim amendments:

- New independent claims 1, 4, 5, 9, 11 and 12 are based on previous claims 1, 4, 5, 9, 11 and 12, respectively, on Figures 1 and 3, and on original specification paragraphs [0007], [0008], [0012], [0033], [0039], 0041], and [0042] (current specification paragraphs [0007], [0008], [0012], [0031], [0037], [0039] and [0040], respectively).
  - New independent claims 1, 4 and 5 specify that it is:
    - "observed when a new uplink packet transmission (3A) for one packet (P2) and an uplink packet retransmission (3B) for another packet (P12) from one user equipment (10) would occur within one sub-frame corresponding to one hybrid automatic repeat request process"
    - "observed" is supported by original specification paragraph [0042], which describes the claimed invention.
    - "...for one packet (P2) ... for another packet (P12)..." is supported by Figure 3 and original paragraph [0041] (current [0039]) from where it is directly and unambiguously clear that the packets (P1) and (P2) are different packets and re-transmission of packet P12 would occur at the same time as the transmission of new packet P2, which is why P2 is consequently delayed.
    - "...from one user equipment (10) would occur within one sub-frame corresponding to one hybrid automatic repeat request process" is supported by original specification paragraph [0039]
      - Even though the original part of the sentence does not say "would occur" but merely "occur", it is directly and unambiguously clear when reading the rest of the sentence in original specification paragraph [0039] and rest of the specification, that the observation is performed before the actual collision occurs. Thus, "would" does not contravene Art. 123(2) EPC
      - "...one sub-frame corresponding to..." is supported by original specification paragraphs [0007], [0008], [0012], [0033] and [0042] read in conjunction with Figure 1.

NOKIA 2 (6)

Paragraph [0007] explains, when referring to Figure 1, that "In this context "DSUUU" means 1 DL sub frames, 1 special sub-frame and 3 UL frames in 5ms, and the other cases are similar.". Thus, it is directly and unambiguously clear that the labeled blocks (=timeslots) of Figure 1 are sub-frames and vice versa.

- Paragraph [0008] states that "...the HARQ process identifications (IDs) in the timeslots numbered as 1, 2, 3, or 4 are shown in darker grey in Figure 1...". Thus, as each HARQ process, for example the HARQ process "1", is in at least one timeslot (=subframe, as is clear from above), it is directly and unambiguously clear that a properly labeled timeslot (=subframe) of Figure 1 corresponds to one HARQ process. Therefore, labeled timeslots (sub-frames) 1, 2, 3 and 4 in Figure 1 correspond to and include distinct HARQ processes.
- This is even further clarified by paragraph [0012], which explains that "For example, and considering the "DSUDD" case in Figure 1, where there is only one UL sub-frame in the 5ms interval, and there are a total of two HARQ processes...". When looking at Figure 1, "DSUDD" case, there is only one sub-frame (=timeslot) allocated for uplink "U" in the 5 ms interval labeled as "1" or "2", and in total two different HARQ processes "1" and "2". Therefore, it is directly and unambiguously clear that certain sub-frames correspond to HARQ processes.
- Also original specification paragraph [0033] (current paragraph [0031] discloses that a sub-frame corresponds to a HARQ process by saying "...the previous subframe corresponding to the same HARQ process...". The "same HARQ process" means a HARQ process labeled with "1" in Figure 1, for example.
- Original specification paragraph [0042] explains that "it can be observed that the second retransmission of P1 (P12) will collide with the predefined timeslot for P2". The timeslot mentioned is the sub-frame of Figure 1, as explained above with reference to paragraph [0008] and Figure 1. Thus, the observation is done to explore whether or not a collision occurs within one sub-frame (=timeslot).
- Rest of the claims 1, 4 and 5 is supported by the respective original claims., except that "...sub-frame corresponding to a different..." is supported by [0007], [0008], [0012], [0033] and [0042] read in conjunction with Figure 1 with similar reasoning as explained above.
- New independent claims 9, 11 and 12 are the corresponding user equipment claims which now define that "...responsive to receiving a dynamic allocation of a different sub-frame corresponding to a different hybrid automatic repeat request process, transmitting a new packet (3A, 3E) using the dynamically allocated different sub-frame corresponding to a different hybrid automatic repeat request process."
  - As presented above, "...different sub-frame corresponding to..." is directly and unambiguously supported by [0007], [0008], [0012], [0033] and [0042] read in conjunction with Figure 1 as explained above. Thus, Art. 123(2) is obeyed.
- New claims 2, 7, 10 and 13 are based on previous claims 2, 7, 10 and 13 and on original specification paragraph [0044] (current paragraph [0042]) and Figure 3.
  - The new claims have been specified and now read as follows: "wherein the resources for the re-transmissions of the new uplink packet transmission, whose transmission has been

NOKIA 3 (6)

delayed, are persistently allocated in the different sub-frame corresponding to the different hybrid automatic repeat request process."

- O This specifies that the persistent allocation is for the re-transmissions and takes place only after the hybrid automatic repeat request function has dynamically allocated the new resources to the new uplink packet transmission. In other words, after the new sub-frame corresponding to another different HARQ process has been dynamically allocated for the new packet uplink transmission, the resource allocations for the possible re-transmissions of the same data may be persistent.
- O This is supported by original specification paragraph [0044] (current paragraph [0042]) and Figure 3. It is shown in Figure 3 and said directly and unambiguously in paragraph [0044] that the re-transmission of P20 (i.e., P21) then also occurs in the second (different) HARQ process. Thus, the re-transmission are thereafter persistently allocated for the selected different sub-frame that corresponds to the different HARQ process.
- o "...different sub-frame corresponding to..." finds basis from [0007], [0008], [0012], [0033] and [0042] read in conjunction with Figure 1 as explained above.
- New claims 3 and 8 find basis from original specification paragraphs [0008] and [0044] (current paragraphs [0008] and [0042])
  - The new claims specify that "allocating the new uplink packet transmission (3E) to occur in any later hybrid automatic repeat request process, wherein constrains imposed by a synchronous hybrid automatic repeat request with regards to the re-transmissions taking place within the same hybrid automatic repeat request process as its initial/new/first transmission need not be followed."
  - "...later..." is supported by paragraph [0044] from which it is clear that the new uplink packet transmission is dynamically reallocated such that the transmission is delayed. Thus, it is evident that a later HARQ process (sub-frame) must be applied.
  - "wherein constrains imposed by a synchronous hybrid automatic repeat request with regards to the re-transmissions taking place within the same hybrid automatic repeat request process as its initial/new/first transmission need not be followed." is based on paragraphs [0008] and [0044] (current paragraph [00042]).
    - From paragraph [0008] it is clear that the synchronous HARQ imposes constrains regarding the re-transmission taking place within the same HARQ process as its initial/new/first transmission.
    - o From paragraph [0044] it is directly and unambiguously clear that these constraints that relate to the re-transmission taking place within the same HARQ process as its initial/new/first transmission need not be followed when freely allocating the resources. There are no other constraints mentioned in the specification, so the reference to constraints in paragraph [0044] clearly relates to the constraints mentioned in paragraph [0008]. This basically opens the technical meaning of the term "freely".
    - O The unclear word "freely" is removed. The removal fulfills the requirement of the "three step test" as described in T331/87 and in C-VI-5.3.10: freely is not explained as essential, it is not indispensible for the function of the invention, and the removal does not require real modification of the other features.

#### Other amendments

NOKIA 4 (6)

- -References to Figures in the claims have been clarified.
- -D3 is identified in the description.
- -Opening part of the description is brought to conformity with the claims.

## Clarity objections and Art 123(2) support

- -The clarity objections have been overcome with the amended claims.
- -Art 123(2) has not been violated when performing the amendments.

## Prior art analysis:

The cited documents were:

- D1 NOKIA ET AL: "Implicit ACK/NAK for LTE DL". 3<sup>RD</sup> GENERATION PARTNERSHIP PROJECT (3GPP), [Online] 19 June 2007 (2007-06-19), XP050106660, Retrieved from the Internet: URL:ftp://ftp.2gpp.org/tsg\_ran/WG1\_RL1/TSG\_R1\_49b/Docs/R1-072996.zip>
- D2 NOKIA: "Uplink Scheduling for VoIP" 3<sup>RD</sup> GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE; 650, ROUTE DES LUCIOLES; F-06921 SOPHIA-ANTIPOLIS CEDEX; FRANCE, [Online] 22 March 2007 (2007-03-22), XP050134396 Retrieved from the Internet: <a href="https://ftp.3gpp.org/tsg-ran/WG2\_RL2/TSG\_R2\_57bis/Documents/R2-071460.zip">URL:ftp://ftp.3gpp.org/tsg-ran/WG2\_RL2/TSG\_R2\_57bis/Documents/R2-071460.zip</a>
- D3 LG electronics: "considerations on UL HARQ", 3<sup>RD</sup> GENERATION PARTNERSHIP PROJECT (3GPP),vol. RAN WG2, no. Orlando, USA; 20070622, 22 June 2007 (2007-06-22), XP050135522

## Novelty:

In addition to what has been said in the previous response regarding D1 and D2, D3 discloses a method on how to act when pre-allocated resources, such as PRACH, blocks the UE re-transmission (ReTx). It is proposed in D3, that the eNB allocates other resource on PDCCH to the UE and the UE performs the retransmission on the allocated new resource. Thus, both are transmitted: PRACH on the pre-allocated resource and the retransmission on a newly allocated resource.

Although dealing with the similar problem as our independent claim, the solution is different. In the current amended claims it is clear that the re-transmission takes precedence over the pre-allocated new transmission. The new transmission is dynamically shifted to a later sub-frame corresponding to different HARQ process. According to the UE specific independent claims, it is also stated that the re-transmission is transmitted by using the resources originally allocated for the new transmission. The new transmission is delayed to a later HARQ process (later sub-frame).

Moreover, D3 talks about collision of UE transmission and pre-allocated resource of PRACH which is used for random access procedure. In the present application, a collision of an UL packet re-transmission and a new UL packet transmission within one HARQ process is under investigation.

Thus, the claimed invention is novel over the cited references D1 to D3.

#### Inventive step:

NOKIA 5 (6)

D3 can be taken as the closest prior art as it relates to the same field and to the same problem as the present application. The problem related is how to avoid collisions when pre-allocated resources coincide with possible re-transmissions.

What D3 discloses has been explained above. In addition it can be said that in D3, in order to avoid resource fragmentation and collision with a pre-allocated resource of PRACH, UE re-transmission (ReTx) follows the PDCCH allocation, but PRACH transmits at the pre-assigned resources. In our invention, it is different. When collision is detected for an UL packet re-transmission and a new UL packet transmission within one sub-frame corresponding to one HARQ process, an UL packet re-transmission follows the semi-persistent allocation and the new UL packet transmission follows dynamic allocation in a different sub-frame corresponding to a different HARQ process.

Therefore, the technical difference between the present claims and the disclosure of D3 is that in the present claims it is specified, that the new uplink packet transmission is dynamically allocated to another sub-frame that does not collide with the uplink packet re-transmission.

The effect is that with a low signaling overhead possible collision is avoided, throughput is increased and network reliability is increased. Moreover, original specification paragraph [0046] (current paragraph [0044]) states that "by the use of this technique the UE is enabled to distribute its UL packet load into all available HARQ processes, and can make full use of the HARQ processes and the physical resources. An additional advantage is that the use of this technique enables more re-transmissions to occur for, as an example, VoIP packets. Furthermore, no change is needed to be proposed or made to the synchronous HARQ in the LTE UL". Thus, the solution of the present application enables more re-transmissions to take place while requiring no modifications to the current synchronous HARQ. The objective technical problem can be seen as how to provide a solution that increases the reliability of the network when pre-allocated resources would block the UE data transmission.

In D3, the solution for the problem is obtained by allocating other resources to the re-transmission (data transmission) and the originally allocated resources are maintained for the pre-allocated purpose (such as for PRACH). Problems in this solution will occur when there are no resources to be allocated to the retransmission. As a result, the re-transmission may need to be skipped, as shown in Figure 2 of D3. This is completely different solution than what is claimed in the present claims. There is nothing in D3 that would hint or teach the skilled person to reach the claimed solution where the predefined transmission is delayed to a later sub-frame and the re-transmission takes precedence. The skilled person facing the objective technical problem and being aware of the common general knowledge would ensure, for example, by prioritizing that resources are available for the PDCCH reallocation of the re-transmission. This would help in improving the reliability of the system. In any case he would not, without an inventive step, come up with an idea to delay the predefined PRACH transmission and let the re-transmission take precedence.

Even though a person skilled in the art might look for D1 or D2 as they both relate to HARQ functions, he would not find the solution there because neither D1 nor D2 teaches or hints rescheduling new (initial) transmissions to new HARQ resources and transmitting the re-transmission with the originally allocated resources. It would thus take an inventive step for a person skilled in the art to reach the claimed solution where a scheduled uplink resource is used for the re-transmission of the packet while the new packet is rescheduled to be transmitted in a different resource.

NOKIA 6 (6)

According to the applicant, the amended claims show a new, inventive and industrially applicable invention, when compared to said references D1, D2 and D3. In case the Examiner disagrees, it is kindly asked to use the problem and solution approach without a hind sight in showing why the skilled person would, not merely could, reach the claimed solution.

It is believed that all of the Examiner's objections to the allowance of the present application has been addressed and overcome. In the event that the Examiner has any outstanding objections for the allowance of the present invention, it is respectfully requested that it be communicated to us in writing or by telephone. Oral proceedings are requested, as a precaution, to be held in the event that this opportunity is refused.

The applicant's authorised representative would, however, be pleased to discuss the application with the examiner with a view to rendering such proceedings unnecessary, or for any other reason.

Yours faithfully,

Nokia Corporation, Intellectual Property Rights

Jussi Jaatinen

Association No. 383

Enclosures: - Amended claims (clean copy)

- Amended claims (complimentary copy)